

New claims 29-32 define the invention in terms of the characteristic beta emitter properties of the fullerene molecule of the this invention. This is in contrast to claims 1-19 which define the invention with reference to a trapped thermal neutron. Based upon this disclosure there cannot be any question that the applicants have enabled persons skilled in the art to prepare fullerene molecules having the claim characteristics.

The applicants submit that claims 29-32 should be free and clear of the §112 rejection which was affirmed upon appeal of the parent application. The Board summarized the rejection this way:

“In the instant case, the examiner is of the opinion that there is no enabling disclosure of how and in what manner it is determined and ensured that thermal neutrons are actually caused to be trapped in the fullerene and remain trapped in the fullerene.”

In maintaining the rejection, the Board stated:

“However, the appellants have not submitted evidence to establish the beta emitters in the fullerene molecule are not in fact other pure beta emitters.”

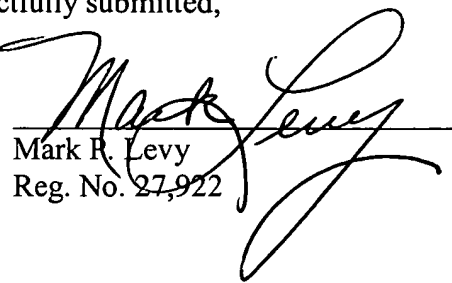
“In addition, it is our view that a person of ordinary skill in the art would not be enabled by the appellants’ disclosure to ensure that even if thermal neutrons are the pure beta emitters, these thermal neutrons are in fact within the fullerene molecule rather than in the sample outside the fullerene or bonded to the fullerene itself.”

New claims 30-32 contain no reference whatsoever to the trapped thermal neutron. While the applicants are confident that the beta particle emitter characteristics of the fullerene are indicative of a trapped thermal neutron, claims 30-32 simply recite a fullerene molecule having a beta particle emitter wherein the beta particle emitter is characterized in that it has a half life of about 10 minutes. Accordingly, claims 30-32 are not burdened by any issue regarding the identity of the beta emitter or the location of the trapped thermal neutron.

If the examiner wishes to discuss any aspect of this Preliminary Amendment, please contact the undersigned at the telephone number listed below.

Respectfully submitted,

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MARKED UP VERSION OF CLAIMS

4. The fullerene molecule of claim 1 wherein said neutrons are capable of being accelerated to elevated energy levels by accelerating the neutron-containing fullerene molecule.
5. The fullerene molecule of claim 4 wherein said neutron-containing fullerene is capable of being provided with an electrical charge and accelerated in a particle accelerator.
6. The fullerene molecule of claim 4 wherein said neutrons are capable of creating [create] a uniform beam of free thermal neutrons at a uniform energy.
8. The fullerene molecule of claim 1 wherein said neutrons are capable of be in released from said fullerene molecule as a uniform beam of free thermal neutrons at a uniform energy [by disassembling the fullerene molecule].
9. The fullerene molecule of claim 8 wherein said neutrons are capable of being released from said fullerene molecule by disassembling the fullerene molecule [fullerene molecule is disassembled] by a laser, an electric field, magnetic field, non-coherent electromagnetic radiation, particle bombardment, pressurization, mechanical force, heat, chemical reaction, electric current, or any combination thereof.
10. The fullerene molecule of claim 8 wherein said neutrons are capable of being released from said fullerene molecule by impinging a beam of neutron-containing fullerenes on a metal foil of similar substance.
11. The fullerene molecule of claim 8 wherein said neutrons are capable of being released from said fullerene molecule at a location removed from a source of said neutrons.
12. The fullerene molecule of claim 1 wherein said neutrons are capable of decaying [decay] into protons.
13. The fullerene molecule of claim 12 wherein said neutrons upon [the] decay [of said neutrons further] emit beta radiation and [antineutrinos] anti-neutrinos.
14. The fullerene molecule of claim 1 wherein said neutrons are capable of transforming [transition] into anti-neutrons via neutron/anti-neutron oscillation.

15. The fullerene molecule of claim 14 wherein the rate of neutron/anti-neutron transformation [anti-neutron transition] is governed [controlled] by controlling the temperature of the fullerene.

16. The fullerene molecule of claim 14 [13] wherein said anti-neutrons are capable of decaying [decay] into anti-protons.

17. The fullerene molecule of claim 16 wherein said anti-neutrons upon [the] decay [of said antineutrons further] emit positrons and neutrinos.

18. The fullerene molecule of claim 1 wherein said [undecayed] neutrons are capable of combining with protons to form deuterium, tritium or a mixture thereof.

19. A C<sub>70</sub> fullerene molecule having one or more free thermal neutrons trapped within said fullerene molecule, wherein said neutrons are capable of being released from said fullerene molecule at a location removed from a source of said neutrons by disassembling the fullerene molecule using a laser, an electric field, magnetic field, non-coherent electromagnetic radiation, particle bombardment, pressurization, mechanical force, heat, chemical reaction, electric current, or any combination thereof; or by impinging a beam of neutron-containing fullerene molecules on a metal foil or similar substance.

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GROUP 3600

*Election*  
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1. Applicants election of Group I in the 7/18/96 response, is acknowledged.

Applicants arguments (and the amendments to the claims) have been considered as follows.

Applicant on page 6 of the 7/18/96 response, specifically states that Groups II, III, and IV are directed to a fullerene molecule containing neutrons, the same as Group I, and, that Groups II, III and IV do not define a utility for the neutron-containing fullerene (it is also noted that the claims in said Groups II, III, and IV have been amended to recite possible capabilities for the neutron-containing fullerene, rather than actually reciting their use in said utilities).

Applicants arguments (along with the amendments to the claims) have accordingly been construed as meaning that the claims in each of Groups II, III and IV are directed only to a neutron-containing fullerene molecule, and, that applicants are not also claiming a use or utility in the claims of each of Groups II, III and IV.

Bases solely on this understanding, the claims of Groups II, III and IV will be examined along with the claims of elected Group I.

If this understanding is not correct, i.e. if applicants actually are claiming a use or utility in the claims of Groups II, III and IV, applicant is required to so inform the office in

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their next response and, the claims of Groups II, III and IV will be withdrawn from further consideration as being drawn to non-elected inventions in accordance with the restriction requirement set forth in the 6/17/96 Office action.

Applicant appears to be arguing that the 6/17/96 restriction requirement is improper because the examiner has provided no evidence that a radioactive material can be encapsulated in a fullerene molecule, however, the examiner is not required to provide documentary evidence of a different process of forming a product (e.g. see MPEP 806.05f).

Applicant, in the 7/18/96 response, state they are "unaware of any radioactive material which has been encapsulated in a fullerene molecule".

Applicants attention is respectfully directed to the prior art references they submitted to the Office on 4/26/95, particularly U.S. Patent No. 5,350,569, W093/15768, and Scientific American (10/91), each of which refer to the encapsulation of radioactive material in a fullerene.

The restriction requirement is accordingly still deemed proper and is made final.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant